Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1. A thin film transistor comprising:

a gate electrode disposed on a predetermined substrate and formed in a predetermined pattern;

a semiconductor layer formed correspondingly to patterning of said gate electrode;

a pixel electrode interposed by said semiconductor layer; and

a signal electrode interposed by said semiconductor layer and disposed at a predetermined interval from said pixel electrode,

wherein said signal electrode is disposed at such a position where said signal electrode prevents crosstalk running from an adjacent signal electrode, via said semiconductor layer, to said pixel electrode.

2. The thin film transistor according to Claim 1, wherein said semiconductor layer is formed in an almost equivalent pattern to said patterning of said gate electrode.

3. The thin film transistor according to Claim 1, wherein:

said gate electrode is provided on said substrate; and

said semiconductor layer is formed on said gate electrode through a gate insulating film and pattern-formed correspondingly to said patterning of said gate electrode.

4. The thin film transistor according to Claim 1, wherein said semiconductor layer is formed on a layer lower than a gate insulating film formed on said lower layer of said gate electrode.

5. A thin film transistor comprising:

a source electrode provided on a predetermined insulating substrate;

a drain electrode disposed by keeping a predetermined interval from said source electrode;

a semiconductor layer disposed so as to contact said source electrode and said drain electrode and connect said both electrodes each other;

a gate insulating film for covering said semiconductor layer; and

a gate electrode disposed adjacently to said gate insulating film; wherein said gate electrode is patterned by being provided with a protruded portion almost orthogonal to said source electrode and said drain

electrode and said semiconductor layer and said gate insulating film are pattern-formed in accordance with said patterning of said gate electrode, and

said drain electrode is disposed nearby said root of said protruded portion on said gate electrode to said source electrode.

6. The thin film transistor according to Claim 5, wherein said semiconductor layer and said gate insulating film are formed in said same patterning process as said gate electrode.

7. The thin film transistor according to Claim 5, wherein said source electrode and said drain electrode are arranged in parallel with each other at a predetermined line width.

8. A liquid-crystal display panel having a pixel electrode and a thin-film-transistor-channel structure for applying a voltage to said pixel electrode, comprising:

a gate line for forming a gate electrode in said thin-film-transistor-channel structure; and

a signal line connected to a signal electrode in said thin-film-transistor-channel structure; and

a semiconductor layer to be patterned under a state along said gate line by exceeding said thin-film-transistor-channel structure; wherein

said signal electrode is configured so as to prevent said current incoming through said semiconductor layer from an adjacent signal line for applying a voltage to a pixel electrode adjacent to said former pixel electrode.

9. The liquid-crystal display panel according to Claim 8, wherein said semiconductor layer remains on said gate line and has a parasitic thin film transistor between said adjacent signal line and said thin-film-transistor-channel structure.

10. The liquid-crystal display panel according to Claim 8, wherein said gate electrode is formed on a substrate and said semiconductor layer is formed on a layer upper than said gate insulating film formed on said upper layer of said gate electrode.

11. The liquid-crystal display panel according to Claim 8, wherein said semiconductor layer is formed on a layer lower than said gate insulating film formed on said lower layer of said gate electrode.

12. A thin film-transistor manufacturing method comprising:

an opaque film step of forming an opaque film having a predetermined shape on a substrate:

an insulating film step of forming an insulating film on said substrate so as to cover said opaque film;

a source-and-drain-electrode forming step of forming a source electrode and a drain electrode which are made of metallic films having a predetermined line width and keeping a predetermined interval from each other on said formed insulating film;

a semiconductor-insulating-film-layer step of forming a semiconductor layer and a gate insulating film layer on said insulating film in order above said source electrode and said drain electrode;

a gate-electrode forming step of forming a metallic film for a gate electrode on said gate insulating film layer;

a pattern forming step of patterning said semiconductor layer, said gate insulating film layer, and said metallic film for a gate electrode and forming a protruded TFT portion having a thin-film-transistor-channel structure and in which said semiconductor layer and said gate insulating film layer are formed at said position of said gate electrode exceeding said protruded TFT portion; wherein

said source-and-drain-electrode forming step forms at least either of a source electrode and a drain electrode serving as a signal electrode so as to cross said protruded TFT portion formed in said pattern forming step.

13. The thin-film-transistor manufacturing method according to Claim 12, wherein said pattern forming step

pattern-forms said semiconductor layer, said gate insulating film layer, and said metallic film for a gate electrode in said same patterning step.

14. The thin-film-transistor manufacturing method according to Claim 12, wherein said pattern forming step pattern-forms said semiconductor layer, said gate insulting film layer, and said metallic film for a gate electrode into almost said same shape.